

REMARKS

I. Status of the Claims

Claims 11-19 and 21-100 are now pending in this application. Claims 13 and 43-100 have been withdrawn from consideration. Claims 11, 12, and 14-42 have been examined.

Claims 11, 12, 21, 25, 26, and 26 have been amended. The proviso of claim 11 was amended, and support for this amendment is discussed in the response to the written description rejection below. The dependencies of claims 21, 25, 26, and 36 have been amended from claim 20 to claim 11, as claim 20 was cancelled in the RCE submission and Reply filed on November 13, 2003.

II. Rejections under 35 U.S.C. § 112, second paragraph

Claims 11, 12, and 14-42 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. (*Office Action* at p. 3.) Applicants respectfully traverse this rejection.

“Chosen from”

The Examiner alleges that “chosen from” is indefinite and suggests that the proper language is “represent.” (*Id.*) Applicants respectfully disagree and traverse this rejection because “chosen from” is not indefinite. Instead, Applicants have used proper alternative language.

The primary purpose of the definiteness requirement is to ensure that the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent. A secondary purpose is to provide a clear measure of what

Applicants regard as the invention so that it can be determined whether the claimed invention meets all the criteria for patentability and whether the specification meets the criteria of 35 U.S.C. § 112, second paragraph.

Applicants submit that the public would be clearly informed of the boundaries of infringement of any patent claim resulting from the pending claims. Applicants have merely recited groups of compounds, where compounds from each group can be chosen as indicated in the claims, a perfectly acceptable alternative claim construction allowed by M.P.E.P. § 2173.05(h). Applicants submit that a potential infringer would have no problem determining the components of the claimed compositions to avoid infringement thereof. The Examiner has furthermore not identified why the rejected claims fail to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Applicants therefore respectfully submit that the Examiner has failed to set forth adequate basis for rejecting the pending claims as indefinite.

The phrase Applicants have used in their claims, *i.e.*, “X chosen from A, B, and C” is proper language and more accurately describes the claimed invention, *i.e.*, defining that the inventive composition may contain one or more X, with each X independently being chosen from the group A, B, and C. The Examiner has shown no legal basis for requiring the Applicants to change it.

Section 2173.05(h) of the M.P.E.P. identifies examples of proper claim language that may be representative, but are not exclusive. In fact, the U.S. Patent and Trademark Office (PTO) has provided other representative examples of proper alternative claim language. Specifically, Applicants direct the Examiner to another example of proper alternative claim language set forth in the M.P.E.P: “wherein R1 is

methyl or phenyl, X and Z are selected from oxygen (O) and sulfur (S).” See M.P.E.P. Appendix AI (PCT), Example 20, p. AI-44 of the 2000 edition. In these examples, the M.P.E.P. does not use the language “represent” as suggested by the Examiner.

The PTO has also published model claims utilizing Applicants' preferred claim language, *i.e.*, X selected from A, B, and C, in the *Training Materials For Examining Patent Applications with Respect to 35 U.S.C. Section 112, First Paragraph - Enablement Chemical/Biotechnical Applications*, released August, 1996. These PTO training materials further clarify that “X selected from A, B, and C” is proper claim language. Following the background case law, training materials, and discussion regarding enablement, the PTO provides Examiners with several example specifications, claims, and model rejections and analysis. See *Training Materials For Examining Patent Applications with Respect to 35 U.S.C. Section 112, First Paragraph - Enablement Chemical/Biotechnical Applications*, at Enablement Decision Tree, August, 1996. These Examples demonstrate what the PTO considers to be proper and acceptable claim language. Example H, entitled “Endothelin Receptor Antagonists,” provides a model claim with alternative claim language that reads “at least one hetero atom selected from N, S, and O,” while Example J, entitled “Selectin-Mediated Cellular Adhesion,” provides a model claim with alternative claim language that reads “wherein the substituent is selected from halogen, C₁₋₄ alkyl, trifluoromethyl, hydroxy, and C₁₋₄ alkoxy.”

In light of these examples of proper alternative claim language provided by the PTO, it is clear that there is no reason for the Examiner to require Applicants to change the claim language of the pending claims.

“Derivatives”

The Examiner alleges that the term “derivatives” is indefinite. (*Id.* at p. 3.)

Applicants respectfully disagree. The use of the word “derivative” is prevalent throughout the chemical literature. Thus, if “derivative” has a well known meaning, it follows that one of ordinary skill in the art can ascertain the meaning of “derivatives” as recited in claim 11. “[I]f the language used by the applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph.” (M.P.E.P. § 2173.02; emphasis in original.)

Moreover, in claim 11, “derivative” is not used in isolation. Claim 11 recites example derivatives of formula I. Applicants respectfully submit that the specification lists four literature references and three patent applications that describe the preparation of many more example derivatives of formula I. (*See Specification* at p. 5, lines 11-23 and p. 8, lines 1-5.) Accordingly, when read in light of the specification and in view of the knowledge of one of ordinary skill in the art, Applicants respectfully submit that “derivatives” is sufficiently definite to satisfy § 112, second paragraph.

Accordingly, Applicants respectfully request withdrawal of this rejection.

III. Rejections under 35 U.S.C. § 112, first paragraph

Written Description

Claims 11, 12, and 14-42 are rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. (*Id.* at pp. 3-4.) Applicants respectfully traverse this rejection.

The Examiner alleges that the following groups have no support in the disclosure:

1. C1-C8 aminoiminoalkyl groups;
2. C2-C8 branched alkenyl groups;
3. "C2-C3" rings;
4. the proviso that R1, R2, and R3 are not simultaneously equal to hydrogen;

and

5. "Addition of last paragraph in claim 11."

(*Id.*)

Applicants respectfully disagree and submit that the groups above have adequate description in the specification.

1. Applicants respectfully submit that C1-C8 aminoiminoalkyl groups have support in the application as-filed at p. 7, lines 24-25, and in originally filed claim 3, by the recitation of "[aminoiminomethyl)amino]iminomethanesulphinic acid." The specification at p. 4, lines 1-4 states that all substituents for R1-R3, can "carry...amino... C1-C8 alkyl..." By disclosing a specific "aminoiminomethyl" compound along with substituents that this compound may carry, one of ordinary skill in the art would readily appreciate that "imino" can be substituted with amino or C1-C8 alkyl.

Moreover, one of ordinary skill in the art, reading the specification at p. 3, lines 19-21, would recognize the second occurrence of "C1 to C8 aminoalkyl" after "imino," to be a typographical error that should read C1-C8 aminoiminoalkyl. Accordingly, Applicant was in possession of aminiminoalkyl groups, such as C1-C8 alkyl groups as described in the specification. It is well settled that the "subject matter of the claim need not be described literally (*i.e.*, using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement." (M.P.E.P. § 2163.02.)

2. Applicants respectfully submit that the disclosure of C1-C8 alkenyl groups in the specification describes to one of ordinary skill in the art branched and linear alkenyl groups, as these groups are commonly known in the art. One of skill in the art would immediately appreciate that the applicants were in possession of branched and linear alkenyl groups.

3. With respect to "C2-C3" rings, Applicants respectfully submit that C2 rings are not claimed. Support for the claimed C3 to C20 rings can be found in the specification at p. 3, line 24.

4. The Examiner alleges that the proviso clause of claim 11 is not described, presumably because the specification does not specifically disclose the proviso.

Applicants first note that the proviso of claim 11 has been amended to recite "when R1 is hydrogen or C₁ to C₄ alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C₁ to C₄ alkyl." Applicants respectfully submit that *In re Johnson* permits exactly this type of proviso. *In re Johnson*, 558 F.2d 1008 (CCPA 1977).

The application at issue in *Johnson* (“the 1972 application”) claimed priority to a parent “1963 application.” *Id.* at 1009. The 1963 application described polyarylene polyethers comprising subunits E and E’. The written description issue focused on the precursor compounds to E and E’. The 1963 application generically described both types of precursor compounds and listed 50 specific E precursor compounds. *Id.* at 1012. Additionally, twenty-six examples disclosed in detail fifteen specific polyarylene polyethers. *Id.*

The 1963 application was subject to an interference, which the appellants in *Johnson* lost. Subsequently, the 1972 application was filed to exclude the species of the lost count, as exemplified in claim 1 below:

1. A substantially linear thermoplastic polyarylene polyether composed of recurring units having the general formula:



where E is the residuum of a dihydric phenol and E' is the residuum of a benzenoid compound having an inert electron withdrawing group in one or more of the positions ortho and para to the valence bonds having a σ^* value above about 0.7 ... with the provisos that E and E' may not both include a divalent sulfone group and may not both include a divalent carbonyl group linking two aromatic nuclei.

Id. at 1013 (emphasis added). The provisos represent the lost count. As a result, fourteen of the species of polyarylene ethers and twenty-three of the examples remained within the claim scope. *Id.* at 1018.

Both the examiner and the Board found that the claims were not supported by the earlier 1963 application. *Id.* at 1014. The Board rationalized that appellants had created an “artificial subgenus,” which was not described in the parent case. *Id.*

Accordingly, the proviso was held to be “new matter ... for which no antecedent basis exists in the parent case.” *Id.*

The CCPA disagreed. The Court determined that the 1963 application was “clearly directed” to the claimed polymers and noted the specific descriptions for E and E’ as well as the twenty-three examples and fifteen species of polyarylene polyethers. *Id.* at 1018. Relying on the premise that “[i]t is for the inventor to decide what bounds of protection he will seek,” the Court found that the appellants simply narrowed the claim scope to exclude the subject matter of the lost interference count”:

Here, as we hold on the facts of this case, the “written description” in the 1963 specification supported the claims in the absence of the limitation, and that specification, having described the whole, necessarily described the part remaining.

Id. at 1018, 1019 (emphasis added). Regarding the Board’s requirement that the genus and proviso (the “artificial genus”) be described in the 1963 application, the Court characterized this as a “hypertechnical application of legalistic prose” relating to the written description requirement. *Id.* at 1019. Accordingly, the Court reversed the Board’s finding and found that the written description requirement was satisfied.

The present case presents the same facts as *Johnson*. As in *Johnson*, the instant specification describes the genus and lists many examples of formamidinesulphinic acid derivatives falling within the genus. (*Specification* at p. 5, line 25 to p. 7, line 28.) Among these listed examples are:

- imino(methylamino)methanesulphinic acid (R1 is hydrogen; R2 and R3 is simultaneously hydrogen and C₁ alkyl);
- imino(propylamino)methanesulphinic acid (R1 is hydrogen; R2 and R3 is simultaneously hydrogen and C₃ alkyl);

- (ethylamino)(ethylimino)methanesulphinic acid (R1 is a C₂ alkyl; R2 and R3 is simultaneously C₂ alkyl);
- (methylamino)(methylimino)methanesulphinic acid (R1 is a C₁ alkyl; R2 and R3 is simultaneously hydrogen and C₁ alkyl);
- (butylamino)(butylimino)methanesulphinic acid (R1 is a C₄ alkyl; R2 and R3 are simultaneously hydrogen and C₄ alkyl); and
- formamidinesulphinic acid (R1 is hydrogen; R2 and R3 are simultaneously hydrogen).

(*Id.* at p. 5, lines 25 and 26, p. 6, lines 3-8, and p. 15, line 27.) Because the specification described formamidinesulphinic acid derivatives of formula (I) ("the whole"), it necessarily described "the part remaining," *i.e.*, formamidinesulphinic acid derivatives of formula (I) minus the derivative where when R1 is hydrogen or C₁ to C₄ alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C₁ to C₄ alkyl, as exemplified by imino(methylamino)methanesulphinic acid, imino(propylamino)methanesulphinic acid, (ethylamino)(ethylimino)methanesulphinic acid, (methylamino)(methylimino)methanesulphinic acid, (butylamino)(butylimino)methanesulphinic acid, and formamidinesulphinic acid. Claim 14 has also been amended to delete imino(methylamino)methanesulphinic acid, imino(propylamino)methanesulphinic acid, (ethylamino)(ethylimino)methanesulphinic acid, (methylamino)(methylimino)methanesulphinic acid, and (butylamino)(butylimino)methanesulphinic acid.

Accordingly, Applicants respectfully request consideration of the law of *In re Johnson* and withdrawal of this rejection.

5. The Examiner alleges that the “last paragraph” of claim 11 is new matter. Applicants respectfully submit that this paragraph was disclosed in the specification at p. 11, line 6 to p. 14, line 9, and in originally filed claim 7.

Accordingly, Applicants respectfully submit that the pending claims satisfy 35 U.S.C. § 112, first paragraph, and request withdrawal of this rejection.

Enablement

Claims 11, 12, and 14-42 are rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. (*Id.* at pp. 4-6.) Applicants respectfully traverse this rejection.

The Examiner asserts that “one skilled in the art would [not] be able to make and use ... the wide range of the compositions of the compounds of formula (I) as claimed.” (*Id.* at p. 4.) Applicants respectfully disagree.

Applicants respectfully submit that the specification provides sufficient guidance to satisfy the enablement requirement. For example, the specification lists four literature references and three patent applications that describe the preparation of many derivatives of formula (I) of the claimed reducing composition. (*See Specification* at p. 5, lines 11-23 and p. 8, lines 1-5.) Based on these literature references, Applicants respectfully submit that preparation of these derivatives is well known in the art. It is well-settled law that “[a] patent need not teach, and preferably omits, what is well known in the art.” (M.P.E.P. § 2164.01.) Accordingly, the specification provides adequate teachings to enable one to make and use the claimed reducing composition for permanent deformation of hair.

Accordingly, Applicants respectfully request withdrawal of this rejection.

IV. Rejection under 35 U.S.C. § 103

Claims 11-12, 16-42, and 100 are rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 1 201 601 ("Amon") and GB 1 334 636 ("GB '636"). (*Office Action* at pp. 6-8.) Applicants respectfully traverse this rejection as follows.

According to the Examiner, Amon "teaches a reducing composition for hair waving or straightening containing aminoiminomethanesulfinic acid or a water-soluble salt thereof." (*Id.* at p. 7.) The Examiner notes that Anon teaches that thiourea dioxide $(\text{NH}_2)_2\text{C}=\text{SO}_2$ can form the tautomer formamidine sulphinic acid or amino imino methane sulphinic acid. (*Id.*)

The Examiner cites GB '636 for describing an oxidation dyeing composition containing a thiocarbamide derivative of the formula $\text{R}-\text{NH}-\text{C}(=\text{SO}_2)-\text{NH}-\text{R}$, where R can be hydrogen or C_1 - C_4 alkyl. (*Id.*; see also GB '636 at p. 1, lines 12-20.)

Although Applicants respectfully disagree that the claimed invention is obvious over Amon and GB '636, Applicants have amended the proviso of claim 11 to recite "when R1 is hydrogen or C_1 to C_4 alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C_1 to C_4 alkyl." As described above in response to the written description rejection, support for this proviso is supported by *In re Johnson*.

Independent claim 11, as amended, does not include any of the compounds disclosed in GB '636. Thus, the combination of Amon and GB '636 does not teach or suggest the claimed invention.

Accordingly, Applicants respectfully request withdrawal of this rejection.

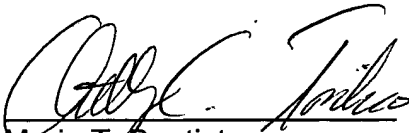
V. Conclusion

If the Examiner believes a telephone conference would be useful in resolving any outstanding issues, she is invited to call the undersigned at (617) 452-1621.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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